

AMENDMENTS TO THE CLAIMS

1 - 25. (Cancelled)

26. (Currently amended) A refractory metal plate comprising
a thickness,
a center, and
an edge,

the metal being selected from the group consisting of tantalum and niobium, said metal being of at least 99.99% purity, the plate having ~~a grain size of less than about~~ an average grain size of less than 40 microns and a texture that is uniform both through said thickness and from said center to said edge, and further wherein said refractory metal plate has

- i) a constant mix of grains with orientation {100} and {111} crystallographic orientations, and
- ii) a distribution of {100} and {111} crystallographic orientations that varies by less than 30 percent across the surface of any plane of said refractory metal plate, said planes being selected from planes that are orthogonal to the thickness of said refractory metal plate, and planes that are diagonal to the thickness of said refractory metal plate, and uniform through the thickness from the center of the plate to the edge of the plate with no preferred direction within the plate so there is not a predominantly {100} or {111} orientation and
- iii) a distribution of {100} and {111} crystallographic orientations that varies by less than 30 percent across any thickness of said refractory metal plate.

27. (Previously presented) The refractory metal plate as claimed in claim 27, wherein the metal is tantalum.

28. (Previously presented) The refractory metal plate as claimed in claim 27, comprising at least 99.999% tantalum.

29. (Previously presented) The refractory metal plate of claim 26, wherein the metal is niobium.

30. (Previously presented) The refractory metal plate as claimed in claim 26, wherein the metal is selected from the group consisting of tantalum, alloys of tantalum, niobium, alloys of niobium and said metal being of at least 99.999% purity.

31. (Withdrawn) A sputtering target comprising the plate as claimed in claim 26.

32. (New) A refractory metal plate comprising
a thickness,
a center, and
an edge,

the metal being selected from the group consisting of tantalum and niobium, the plate having a texture that is uniform both through said thickness and from said center to said edge, and further wherein said refractory metal plate has

- i) a distribution of {100} and {111} crystallographic orientations that varies by less than 30 percent across the surface of any plane of said refractory metal plate, and is uniform through the thickness from the center of the plate to the edge of the plate with no preferred direction within the plate so there is not a predominantly {100} or {111} orientation and
- ii) a distribution of {100} and {111} crystallographic orientations that varies by less than 30 percent across any thickness of said refractory metal plate.

33. (New) The refractory metal plate as claimed in claim 32, wherein the metal is tantalum.

34. (New) The refractory metal plate as claimed in claim 33, comprising at least 99.999% tantalum.

35. (New) The refractory metal plate of claim 32, wherein the metal is niobium.

36. (New) The refractory metal plate as claimed in claim 32, wherein the metal is selected from the group consisting of tantalum, alloys of tantalum, niobium, alloys of niobium and said metal being of at least 99.999% purity.

37. (New) The refractory metal plate as claimed in claim 32, wherein said planes being selected from planes that are orthogonal to the thickness of said refractory metal plate, and planes that are diagonal to the thickness of said refractory metal plate.

38. (New) The refractory metal plate as claimed in claim 32, wherein said plate has an average grain size of less than 40 microns